

WHAT IS CLAIMED IS:

1. A water-soluble or water-dispersible polyurethane comprising a reaction product of
 - A) at least one polyether polyol a1) having an average functionality of
5 ≥ 3 and at least one urethane group-containing polyether polyol a2) having an average functionality of ≥ 4 ,
 - B) at least one monoalcohol with 6 to 22 carbon atoms,
 - C) at least one (cyclo)aliphatic and/or aromatic diisocyanate
 - D) at least one oxime, monoamine and/or diamine with 2 to 18 carbon
10 atoms,
 - E) optionally at least one monoisocyanate with 4 to 18 carbon atoms, and
 - F) optionally at least one polyisocyanate having an average functionality of > 2
- 15 wherein the starting NCO/OH equivalent ratio is between 0.5:1 to 1.2:1.
 2. The polyurethane of claim 1 wherein the polyether polyol a1) has an average functionality of 3 to 4.
 3. The polyurethane of claim 1 wherein the polyether polyol a1) has an average functionality of 4 to 6.
 - 20 4. The polyurethane of claim 1 wherein the monoalcohol B) has 6 to 18 carbon atoms.
 5. The polyurethane of claim 1 wherein the monoalcohol B) has 8 to 18 carbon atoms.
 6. The polyurethane of claim 1 wherein the monoalcohol B) has
25 8 to 14 carbon atoms.
 7. The polyurethane of claim 1 wherein the diisocyanate C) is a (cyclo)aliphatic diisocyanate.
 8. The polyurethane of claim 1 wherein the component D) is an oxime.
 - 30 9. The polyurethane of claim 1 wherein the component D) is a monoamine.

10. The polyurethane of claim 1 wherein the component D) is a diamine and/or polyamine.

11. The polyurethane of claim 1 wherein the component D) is an hydroxyfunctional amine.

5 12. A process for the production of the water-soluble or water-dispersible polyurethane of claim 1, comprising reacting

A) a mixture of at least one polyether polyol a1) having a mean functionality of ≥ 3 and at least 1 urethane group-containing polyether polyol a2) having an average functionality of ≥ 4 ,

10 B) at least one monoalcohol with 6 to 22 carbon atoms,

C) at least one (cyclo)aliphatic and/or aromatic diisocyanate,

D) at least one oxime, monoamine and/or diamine with 2 to 18 carbon atoms,

15 E) optionally at least one monoisocyanate with 4 to 18 carbon atoms, and

F) optionally at least one polyisocyanate having an average functionality of > 2

at a starting NCO/OH equivalent ratio of 0.5:1 to 1.2:1.

20 13. The process of claim 12 wherein the urethane group-containing polyether polyol a2) is a reaction product of the polyether polyol a1) with a diisocyanate.

14. The process of claim 12 and 13 wherein the urethane group-containing polyether polyol a2) is a reaction product of the polyether polyol a1) with polyisocyanates having an average functionality of ≥ 2 .

25 15. A process for adjusting the flow properties of an aqueous paint system, adhesive and another aqueous formulation comprising adding the polyurethane of claim 1 to the aqueous paint system, adhesive and another aqueous formulation.

30 16. An aqueous paint system, adhesive and another aqueous formulation comprising the polyurethane of claim 1.